

What is claimed is:

1. A system accessing and transmitting different data frames in a digital transmission network in order to access and transmit different data frames, comprising:

at least a user-network interface (UNI), which is used to couple with the user-network;

at least a network-network interface (NNI), which is used to couple with said digital transmission network to transfer data;

at least one mapping/demapping device;

a virtual interface device, which couples with at least one UNI and couples with at least one NNI via the mapping/demapping device;

a control device, which couples with said virtual interface device to control other corresponding devices to perform different data frame processing flows.

2. A system accessing and transmitting different data frames in a digital transmission network according to claim 1, wherein said control device comprises:

a data processing and dispatching device, comprising: at least an inter-device interface designed to input and output data frames, a data processing and dispatching unit coupled with said inter-device interface to input and output data frames; a processing flow database storing a plurality of processing flows and coupled with said data processing and dispatching unit so as to process data according to said processing flows; a control interface unit coupled with said processing flow database and said data processing and dispatching unit so as to control said virtual private processing unit and said rule database to process the data frames.

3. A system accessing and transmitting different data frames in a digital transmission network according to claim 1, wherein said other corresponding devices comprise: at least a virtual private device and/or at least a virtual bridge device and/or at least a RPR device coupled with said data processing and dispatching device.

4. A system accessing and transmitting different data frames in a digital transmission network according to claim 2, wherein each processing flow in said processing flow database comprises: data frame type number and inter-device interface number.

5. A system accessing and transmitting different data frames in a digital transmission network according to claim 2 or 3, wherein each inter-device interface of said data processing and dispatching unit corresponds to a unique external device.

6. A system accessing and transmitting different data frames in a digital transmission network according to claim 2, wherein the mapping relationship between said processing flows and data frame types is 1:1; the data processing and dispatching unit finds corresponding processing flows according to data frame types and informs corresponding device to process the data frames according to the processing flows.

7. A system accessing and transmitting different data frames in a digital transmission network according to claim 6, wherein the processing flows in said processing and dispatching flow database are established, modified, or deleted dynamically; data of the processing flows in said processing and dispatching flow database are added, modified, or deleted dynamically during operation.

8. A method of accessing and transmitting different data frames in the system accessing and transmitting different data frames in a digital transmission network, wherein said system accessing and transmitting different data frames in a digital transmission network comprises a data processing and dispatching device, said data processing and dispatching device comprises at least an inter-device interface, a processing flow database, and a control interface unit, said data processing and dispatching device processes the data frames entering it through the following steps:

extracting type number from the data frames;

searching in said processing flow database with the index of extracted type number;  
determining the retrieval result, discarding the data frames if it is blank and ending the process;

if the retrieval result is not blank, extracting the inter-device interface number from said retrieval result;

outputting the data frames via the inter-device interface with the inter-device interface number.

9. A method of accessing and transmitting different data frames in the system accessing and transmitting different data frames in a digital transmission network, the data frames entering the system via a UNI are processed through the following steps:

performing matching operation for the data frames according to classifying rules;

modifying the data frames according to the predefined classifying rules, i.e., inserting data type number in the data frames;

transferring the modified data frames to the data processing and dispatching device;

finding corresponding processing unit according to the data type number in the data frames;

transferring the data frames to said found processing unit;

determining whether said found processing unit is a virtual interface device;

if said found processing unit is not a virtual interface device,

said found processing unit processing said data frames;

modifying the data type number of said data frames;

transferring said modified data frames to said data processing and dispatching device;

going back to the step of searching for the corresponding processing unit according to the data type number in said data frames, and searching for the corresponding processing unit again;

if said found processing unit is a virtual interface device,

said virtual interface device finding corresponding device interface according to the

data type number in the data frames;

said virtual interface device modifying the data frames, i.e., deleting the data type number from the data frames;

said virtual interface device transferring the modified data frames to corresponding device interface (UNI or NNI) in order to output the modified data frames via said interface.

10. A method according to claim 9, wherein the step of said virtual interface device transferring the modified data frames to corresponding device interface comprises: mapping said data frames if said data frames are transferred to an network-network.

11. A method according to claim 9, wherein the step of processing said data frames entering the system via a NNI further comprises the following step: demapping said data frames.